2016
Major Automated Information System
Annual Report

integrated Electronic Health Record Increment 1 (iEHR Inc 1)

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MAIS Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ADM - Acquisition Decision Memorandum
AoA - Analysis of Alternatives
ATO - Authority To Operate
APB - Acquisition Program Baseline
BY - Base Year
CAE - Component Acquisition Executive
CDD - Capability Development Document
CPD - Capability Production Document
DAE - Defense Acquisition Executive
DoD - Department of Defense
DoDAF - DoD Architecture Framework
FD - Full Deployment
FDD - Full Deployment Decision
FY - Fiscal Year
IA - Information Assurance
IATO - Interim Authority to Operate
ICD - Initial Capability Document
IEA - Information Enterprise Architecture
IOC - Initial Operational Capability
IP - Internet Protocol
IT - Information Technology
KPP - Key Performance Parameter
$M - Millions of Dollars
MAIS - Major Automated Information System
MAIS OE - MAIS Original Estimate
MAR – MAIS Annual Report
MDA - Milestone Decision Authority
MDD - Materiel Development Decision
MILCON - Military Construction
MS - Milestone
N/A - Not Applicable
O&S - Operating and Support
OSD - Office of the Secretary of Defense
PB - President's Budget
RDT&E - Research, Development, Test, and Evaluation
SAE - Service Acquisition Executive
TBD - To Be Determined
TY - Then Year
U.S.C- United States Code
USD(AT&L) - Under Secretary of Defense for Acquisition, Technology, & Logistics

Program Information

Program Name

integrated Electronic Health Record Increment 1 (iEHR Inc 1)

DoD Component

DoD

The acquiring DoD Component is Program Executive Office (PEO) Department of Defense (DoD) Healthcare Management Systems (DHMS) for Defense Health Agency (DHA).

Responsible Office

Program Manager

Ms. Aimee Scanlon
1501 Wilson Blvd.
Suite 700
Rosslyn, VA 22209

Phone: 703-588-5606
Fax:
DSN Phone:
DSN Fax:
Date Assigned: November 16, 2015

aimee.b.scanlon.civ@mail.mil

References

MAIS Original Estimate

February 25, 2015

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 2, 2015

Program Description

As stated in the iEHR Acquisition Decision Memorandum (ADM), dated April 18, 2012, iEHR Increment 1 includes risk reduction and proof of concept activities to address clinical gaps/shortfalls. Specifically, Increment 1 will:

(1) Deliver two user-facing capabilities;

   a) Single Sign-On that will streamline the login process allowing the user to sign in once and leverage securely stored credentials to automatically access the other available applications;

   b) Context Management that will automatically present the same patient's data within all applications in use by the practitioner;

(2) Provide enhanced infrastructure services such as virtualization;

(3) Establish a Development Test Center/Environment configuration; and,

(4) Provide critical Clinical Data Repository upgrades.

Business Case

Business Case Analysis, including the Analysis of Alternatives: Key functional requirements for this program are provided in the Integrated Program Level Requirements Documents (IPLRD), as well as, capability-based Business Justification Packages. In addition, overall program Business Case and problem statements are defined in the integrated Electronic Health Record (iEHR) Capstone Business Case and associated Increment 1 Annex A. These are briefly summarized as follows:

An Analysis of Alternatives (AoA) for Military Health System Electronic Health Records (EHR) of September 20, 2011, was reviewed by Director, Cost Assessment and Program Evaluation and identified risks that require mitigation. The iEHR Increment 1 risk reduction activities combined with robust risk mitigation plans have positioned iEHR for future success.

On March 17, 2011, the Secretary of Veteran Affairs (VA) and the Secretary of Defense (DoD) agreed in principle to adapt, acquire or build a joint iEHR system, thereby establishing the basis for joint program execution.

On October 27, 2011, the DoD and VA signed an Interagency Program Office (IPO) Charter that stated that the IPO will serve as the single point of accountability for the Departments in the development and implementation of the iEHR and report to the IPO Advisory Board.

On April 18, 2012, the Milestone Decision Authority (MDA) signed the iEHR Acquisition Decision Memorandum (ADM) which defined the next steps for both the Electronic Health Record Way Ahead (also known as the Electronic Health Record) and the iEHR program in light of the agreements reached by the Secretaries of Defense and Veterans Affairs. Funding identified previously under the Electronic Health Record has been subsumed under the iEHR.

Firm, Fixed-Price Feasibility: The determination of contract type will be based on cost risk associated with the estimated cost of satisfying the requirement, not any lack of clarity of the technical requirement. When making the selection of contract type to execute the program's next acquisition phase, the MDA will choose between fixed-price and cost-type contracts consistent with the level of cost and technical risk associated with the effort.

Independent Cost Estimate: The program has not experienced a Critical Change which would induce the independent cost estimate required by 10 U.S.C. 2334(a)(6).

Certification of Business Case Alignment; Explanation: I certify that all technical and business requirements have been reviewed and validated to ensure alignment with the business case. This certification is based on my review of the IPLRD, Capstone Business Case and Annex A, and the AoA.

Business Case Certification:
Name: Mr. Robert J. Bolluyt
Organization: OASD(HA)/Defense Health Agency for iEHR Inc 1
CAC Subject: CN=BOLLUYT.ROBERT.J.1138016460,OU=TMA,OU=PKI,OU=DOD,O=U.S. GOVERNMENT,C=US
Date: 4/17/2013 12:06 PM

Business Case Changes

There has been no significant change to the Business Case since it was last certified.

Program Status

Close-out Report for Program Completion: As of April 2015, iEHR Increment 1 achieved Full Deployment (FD) and is now in the O&S phase of its life-cycle. Therefore, this will be the last iEHR Increment 1 MAIS Annual Report submitted under the provisions of 10 U.S.C. Chapter 144A.

The associated FD Acquisition Decision Memorandum was signed on April 24, 2015.

Schedule

Schedule Events		
Events	**Original Estimate Objective**	**Current Estimate (Or Actual)**
Milestone A	N/A	N/A
Milestone C[1]	Aug 2012	Dec 2012
Milestone C[1]	Jun 2013	May 2014
FDD[2]	Dec 2013	Nov 2014
FD[3]	May 2015	Apr 2015

Memo

1/ iEHR Increment 1 MS C was achieved in June 2014.
2/ USD(AT&L) Memorandum for the Record dated September 24, 2014 documented the determination of no Critical Change for the program. A copy of the memorandum has been uploaded in DAMIR files and the Acquisition Information Prepository (AIR). Since DAMIR does not calculate an APB Breach based on the day/month/year to determine if a breach occurred, a May 2014 Current Estimate date was entered instead of June 2014.
3/ The iEHR Increment 1 FD was achieved in April 2015 as documented in the ADM of April 24, 2015.

Acronyms and Abbreviations

ADM - Acquisition Decision Memorandum
FD - Full Deployment
FDD - Full Deployment Decision

Performance

Performance Characteristics		
Original Estimate Objective/Threshold		**Current Estimate (Or Actual)**
Essential Business Function (EBF) 1: Context Management (CM) Automatically ensure that open, disparate clinical applications on an end-user device maintain the same user and patient context, and reliably display data on the same patient. (Eliminates the need for the clinician to search for and validate the same patient multiple times in different applications, as well mitigate the risk of pulling data for the wrong patient.)		
2 seconds to automatically load the patient name on a new application -- No negative impact to application or desktop performance -- No software severity levels of 1, 2 or clusters of 3s -- Switch between up to 5 applications in CM within 1s	No impact to application or desktop performance; 5s to automatically load the patient name on the new application -- No software severity levels of 1, 2 or clusters of 3s -- Switch between up to 3 applications in CM within 2s	Threshold Met
EBF 2: SSO Simplify and expedite user access to included clinical applications by allowing automatic log in to multiple applications based on the credentials provided at the time of initial log in to the system.		
Initial login- 15s -- No software severity levels of 1, 2 or clusters of 3s	Initial login: 25s; -- No software severity levels of 1, 2 or clusters of 3s	Threshold Met
EBF 3: (Roaming) Provide the ability for users to move from one End User Device (EUD) to another while maintaining their system settings, context management, open applications and presentation state.		
3s to resume active virtual session on a new workstation after completion of end user device login and effective within time out period of active software applications -- No software severity levels of 1, 2 or clusters of 3s	15s to resume active virtual session on a new workstation after completion of end user device login and effective within time out period of active software applications -- No software severity levels of 1, 2 or clusters of 3s	Threshold Met

Memo

EBFs for iEHR Increment 1 were approved November 6, 2012 by the Interagency Clinical Informatics Board (ICIB).

Notes Applicable to the Characteristics Table:
- Performance time criteria are expressed as means having a level of confidence of 75 percent.

Definitions: (Definitions of severity for software defects, as described by FDA and in the Institute of Electrical and Electronics Engineers (IEEE) and the Electronic Industries Alliance (EIA) 12207.0, "Standard for Information Technology-Software Life Cycle Processes", apply.)

Level 1 Severity: If a defect meets the IEEE definition of severity 1 or if a failure or latent flaw could directly result in death or serious injury to the patient or operator, it is a "Major" concern. The level of concern is also "Major" if a failure or latent flaw could indirectly result in death or serious injury of the patient or operator through incorrect or delayed information or through the action of a care provider.

Additionally, a defect that destroys data on an accounting sub-system, but does not threaten a patient's life, is nevertheless a severity 1 issue. Conversely, a defect that has a workaround (meaning low IEEE severity), but occurs in a critical procedure that could result in loss of life, is also a severity 1 issue or "Major" concern.

Level 2 Severity: If a defect meets the IEEE definition of severity 2 or if a failure or latent design flaw could directly result in minor injury to the patient or operator, it is a "Moderate" concern. The level of concern is also "Moderate" if a failure or latent flaw could indirectly result in minor injury to the patient or operator through incorrect or delayed information or through the action of a care provider.

Level 3 Severity: If a defect meets the IEEE definition of severity 3 or if a failures or latent design flaws are unlikely to cause any injury to the patient or operator, it is a "Minor" concern.

Acronyms and Abbreviations

CM - Context Management
EBF - Essential Business Function
EUD - End User Device
s - seconds
SSO - Single Sign On

Cost

iEHR Inc 1				
Appropriation Category	**BY 2012 $M**		**TY $M**	
	Original Estimate	**Current Estimate Or Actual**	**Original Estimate**	**Current Estimate Or Actual**
Acquisition Cost				
RDT&E	69.7	51.6	69.8	51.4
Procurement	119.7	69.7	122.8	71.2
MILCON	0.0	0.0	0.0	0.0
Acq O&M	171.1	131.3	173.7	132.4
Total Acquisition Cost	360.5	252.6	366.3	255.0
Operating and Support (O&S) Cost				
Total Operating and Support (O&S) Cost	570.4	50.3	659.6	58.3
Total Life-Cycle Cost				
Total Life-Cycle Cost	930.9	302.9	1025.9	313.3

Cost Notes

1. This report and the Budget Year IT-1 Exhibit cover different time periods thus the costs will not match.
2. Then Year dollars are included for information purposes only; cost variances will be reported against Base Year dollars.
3. The O&S costs reflect all work performed during that phase, regardless of the type or source of funding.

Current iEHR Increment 1 estimates are significantly lower than expected at MS B. This is primarily because of reductions in program scope.

The following efforts are no longer part of iEHR Increment 1:

Current iEHR Increment 1 estimates are significantly lower than expected at MS B. This is primarily because of reductions in program scope.

The following efforts are no longer part of iEHR Increment 1:

1. Clinical Data Repository Stabilization sustainment efforts beyond FY14
2. JANUS Graphical User Interface allergies write-back (Department of Veterans Affairs (VA) requirement - not funded)
3. Application Virtualization Hosting Environment, Single Sign On, and Context Management deployment to the enterprise. (Deployment and Sustainment at James A. Lovell Federal Health Care Center is still in scope.)
4. Regionalization
5. Developmental Test Center sustainment beyond FY14

The iEHR Increment 1 APB for FDD achieved in November 2014 was signed by the MDA March 2, 2015. Current estimate is consistent with the FDD APB.